

REMARKS

Applicants respectfully request reconsideration of the present application in view of the foregoing amendments and in view of the reasons that follow.

I. Amendments to the specification

Applicants have amended the specification to incorporate by reference the Sequence Listing filed concurrently herewith. As the listing adds no new matter, entry and examination thereof is respectfully requested.

II. Status of the claims

Claims 13 and 21 were previously cancelled without disclaimer or prejudice thereof.

In this reply, claims 3, 4, 6, 7 and 20 are requested to be cancelled without disclaimer or prejudice thereof.

Claims 12 and 14-17 are withdrawn.

Claims 1, 2, 5, 18, 19 and 22 are currently amended. Claim 1 is amended to recite the steps of cancelled claims 3 and 4, to recite “wherein the disease is pneumonia or sepsis”, and to recite “the soluble form of the human TREM-1 receptor” instead of the abbreviation “sTREM-1”. Claims 2, 5, 18, 19 and 22 are also amended to recite “the soluble form of the human TREM-1 receptor” instead of the abbreviation “sTREM-1”. Support for the amendments can be found throughout the specification, for example, at cancelled claims 3 and 4, and in the specification at page 1, lines 25. The amendments add no new matter, and entry and examination of the claims as amended is respectfully requested.

This amendment adds, changes and/or deletes claims in this application. A detailed listing of all claims that are, or were, in the application, irrespective of whether the claim(s) remain under examination in the application, is presented, with an appropriate defined status identifier.

After amending the claims as set forth above, claims 1, 2, 5, 8-12, 14-19, and 22-23 are now pending in this application with claims 1, 2, 5, 8-11, 18, 19 and 22-23 under examination.

III. Claim rejection – 35 U.S.C. § 112, second paragraph

Claims 1-11, 18, 19, 22 and 23 are rejected under 35 U.S.C. § 112, second paragraph as allegedly being indefinite. Specifically, the Office Action asserts that claim 1 is indefinite “by using the abbreviation sTREM-1 without reciting ... the full name of said term” and by reciting “*the* level” with an alleged lack of antecedent basis (Office Action at page 3). Applicants respectfully traverse this ground for rejection.

Claims 3, 4, 6 and 7 are cancelled, thereby obviating the rejection with respect to these claims. With respect to the remaining pending claims, without conceding to the Office Action assertions and solely to expedite prosecution, claim 1 has been amended to recite “a level” instead of “the level,” and claims 1, 2, 5, 18, 19 and 22 have been amended to recite “the soluble form of the human TREM-1 receptor” instead of the term “sTREM-1.”

Accordingly, the reason for rejection is obviated, and Applicants respectfully request reconsideration and withdrawal of the rejection under 35 U.S.C. § 112, second paragraph.

IV. Claim rejection – 35 U.S.C. § 102(b)

Claims 1, 2, 3, 8, 10, 11, 18, 19, 22 and 23 are rejected under 35 U.S.C. § 102(b) as allegedly being anticipated by WO 2002/058721 to Margolin (“Margolin”). Specifically, the Office Action asserts that Margolin teaches “a method of diagnosing diseases in a subject ... comprising measuring the level of sTREM-1” and that bacterial diseases such as toxic shock are also disclosed. (Office Action at page 4). Applicants respectfully traverse this ground for rejection.

A. The claims

The present claims relate to a method of diagnosing disease of bacterial or fungal origin in a subject, wherein said disease is pneumonia or sepsis. The claimed method comprises the steps of measuring a level of the soluble form of the human TREM-1 receptor in a biological sample obtained from said subject; comparing the measured level of the soluble form of the human TREM-1 receptor in the sample with a mean level in a control population of individuals not having disease of bacterial or fungal origin; and correlating elevated levels of the soluble form of the human TREM-1 receptor with the presence or extent of said disease of bacterial or fungal origin.

B. Margolin

Margolin describes a soluble TREM-1 receptor having amino acid sequence of SEQ ID NO: 2 (“TREM-1 splice variant”) (Margolin at page 3, lines 2). Margolin describes detecting levels of the TREM-1 splice variant (Margolin at pages 19-20) and that lowered levels indicate an inflammatory response. (*See e.g.*, Margolin at page 20, paragraph [0084]; claims 26, 31 and 32). Margolin describes treating septic arthritis, septic shock or toxic shock by administering a competitive inhibitor of TREM-1 ligand. (Margolis at paragraph [0106] and [0107], page 44).

However, Margolin does not disclose a method of diagnosing pneumonia or sepsis which includes measuring a level of the soluble form of the TREM-1 receptor, comparing the measured level of the soluble form of the TREM-1 receptor in the sample with a mean level in a control population, and correlating elevated levels of the soluble form of the TREM-1 receptor with the presence or extent of said disease.

“A claim is anticipated only if each and every element as set forth in the claim is found, either expressly or inherently described, in a single prior art references,” and “the identical invention must be shown in as complete detail as is contained in the ... claim.” (MPEP § 2131, citations omitted). Because Margolin does not disclose each and every element of the claim in as

complete detail as contained in the claim, the rejection under 35 U.S.C. § 102(b) is improper and reconsideration and withdrawal is respectfully requested.

III. Claim rejection – 35 U.S.C. § 102(e)

Claims 1-8, 10-11, 18, 19, 20, 22 and 23 are rejected under 35 U.S.C. § 102(e) as allegedly being anticipated by U.S. Patent Publication 2003/0165875 to Colona (“Colona”). Specifically, the Office Action asserts that Colona teaches “a method of diagnosing disease of bacterial or fungal origin in a subject, which method comprises the step of measuring the level of sTREM-1 in a biological sample....” (Office Action at page 5). The Office Action continues, asserting that Colona teaches “TREM-1 receptor as a specific marker for bacterial and fungal sepsis...immunochemical techniques...antibodies specific for TREM-1 ligand and receptor...and blood and plasma from human.” (Id.) The Office Action asserts that the soluble form of TREM-1 is inherently taught by Colona. (Id.) Applicants respectfully traverse this ground for rejection.

A. Colona

Colona does not disclose a soluble form of TREM-1, the detection of which could possibly result in the diagnosis of pneumonia or sepsis. Colona describes the naturally-occurring membrane-bound form of TREM-1, and teaches that this form of TREM-1 is insoluble (see e.g., Colona at paragraph [0225], stating that “[i]n the case of cell-free assays comprising the membrane-bound form of the polypeptide, it may be desirable to use a solubilizing agent such that the membrane-bound form of the polypeptide is maintained in solution.”). Therefore, pursuant to the teaching of Colona, this form of the TREM-1 is not “inherently” soluble.

Colona also describes generating a soluble form of TREM-1 by creating a fusion protein between TREM-1 and IgG1. (See e.g., Colona at paragraphs [0278], [0281], [0304]-[0305]). In various experiments, Colona introduces this fusion into mouse to determine its potential as a prophylactic or treatment; however, this form of TREM-1 is not used to diagnose disease.

In fact, nowhere does Colona describe a method of diagnosing pneumonia or sepsis by measuring a level of the soluble form of the human TREM-1 receptor in a biological sample obtained from said subject and comparing the measured level of the soluble form of the human TREM-1 receptor in the sample with a mean level in a control population of individuals not having disease of bacterial or fungal origin, and then correlating elevated levels of the soluble form of the human TREM-1 receptor with the presence or extent of the disease (*e.g.*, pneumonia or sepsis).

Accordingly, because Colona does not disclose each and every element of the claim in as complete detail as contained in the claim, the rejection under 35 U.S.C. § 102(e) is improper and reconsideration and withdrawal is respectfully requested.

IV. Conclusion

The present application is now in condition for allowance. Favorable reconsideration of the application as amended is respectfully requested.

The Examiner is invited to contact the undersigned by telephone if it is felt that a telephone interview would advance the prosecution of the present application.

The Commissioner is hereby authorized to charge any additional fees which may be required regarding this application under 37 C.F.R. §§ 1.16-1.17, or credit any overpayment, to Deposit Account No. 19-0741. Should no proper payment be enclosed herewith, as by the credit card payment instructions in EFS-Web being incorrect or absent, resulting in a rejected or incorrect credit card transaction, the Commissioner is authorized to charge the unpaid amount to Deposit Account No. 19-0741.

Atty. Dkt. No. 059718-0108
Application No. 10/587,356

If any extensions of time are needed for timely acceptance of papers submitted herewith, Applicants hereby petition for such extension under 37 C.F.R. §1.136 and authorizes payment of any such extensions fees to Deposit Account No. 19-0741.

Respectfully submitted,

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